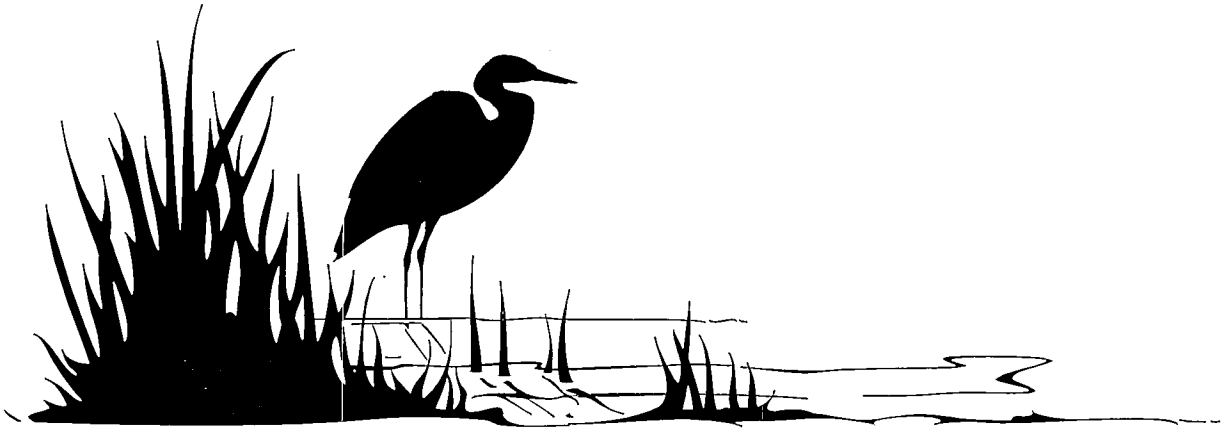
SWAN RIVER NATIONAL WILDLIFE REFUGE

Kalispell, Montana



ANNUAL NARRATIVE REPORT

Calendar Year 1996

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U.S. Department of Interior
FISH AND WILDLIFE SERVICE

NATIONAL WILDLIFE REFUGE SYSTEM

REVIEW AND APPROVALS

SWAN RIVER NATIONAL WILDLIFE REFUGE

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Refuge Manager — Date: 4-2-99

Project Leader — Date: 5/3/99

Refuge Supervisor Review — Date: 11/18/99

Regional Office Approval — Date: 11/10/99

INTRODUCTION

The Swan River National Wildlife Refuge (NWR), is located in northwest Montana, 38 miles southeast of the town of Creston, in the serene and picturesque Swan Valley Mountain Range. The Refuge was established in 1973 at the request of Montana Senator Lee Metcalf, who often hunted the area and desired to see the area preserved. The Refuge was established under the authority of the Migratory Bird Conservation Act. It consists of 1,568 acres, with an additional 210-acre Forest Service inholding that is managed under a Memorandum of Understanding. The refuge boundary lies within the floodplain of the Swan River above Swan Lake and between the Swan Mountain Range to the east and the Mission Mountain Range to the west. The valley was formed when glacial water poured down the steep slopes of the Mission Range into Flathead Lake. The valley floor is generally flat, but rises steeply to adjacent forested mountain sides. Approximately 80 percent of the refuge lies within this valley floodplain, which is composed mainly of reed canary grass. Deciduous and coniferous forests comprise the remaining 20 percent. Swan River, which once meandered through the floodplain, has been forced to the west side of the refuge by deposits of silt, leaving a series of oxbow sloughs within the refuge floodplain.

The purpose of the refuge is "...for use as an inviolate sanctuary, or for any other management purpose, for migratory birds". Objectives of the refuge are to provide for waterfowl habitat and production and to provide for other migratory bird habitat. The refuge also provides a nesting site for a pair of southern bald eagles and a variety of other avian species. In addition, deer, elk, moose, beaver, bobcat, black bear and grizzly bears are known to inhabit the area. There are no significant developments or facilities on the refuge and present management is directed at maintaining the area in its' natural state. The refuge is a satellite unit of the National Bison Range. Day-to-day administration and operations are the responsibility of the on-site Refuge Manager located at Creston, Montana, 38 miles northwest of the refuge.

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A. HIGHLIGHTS

Estimated duck production increased 48 percent; Canada goose production decreased 30 percent (Section G.3.).

The bald eagle pair hatched and successfully fledged two eaglets (Section G.2.).

B. CLIMATIC CONDITIONS

In 1996 the Flathead Valley experienced the wettest year on record. Precipitation and snowfall in the Swan Valley was also a record, with snowfall totalling a whopping 182"! This was an approximate 285 percent increase from 1995 amounts. Precipitation in 1996 exceeded the 12-year-average of 26.60 inches, with a total of 46.38". Monthly precipitation totals exceeded the 12-year-average during 10 months of the year. The two driest months were March and August. A major snowstorm on November 19 brought over 24" to the Swan Valley; an additional 16" fell during the month. Precipitation increased in December with an additional accumulation of 79.5" of snow! Late in December mountain snowpacks were nearly double the 30-year-average. With the exception of several very cold days in January and February, temperatures were only slightly cooler than average throughout the year. The mercury never rose above the 90 degree mark all summer, with a high of 88 degrees recorded on August 16th, and a low of -32 degrees recorded on January 30th. Potholes within the refuge froze, then thawed on several occasions in October and November. Final freeze-up occurred on November 19th. In late December the refuge was covered with approximately 100" of packed snow.

Increased precipitation resulted in excessive annual flooding of the refuge. It was estimated that about 80-85 percent of the refuge flooded in May, June and July.

Climatic data for the refuge was provided by Ms. Joan Thuma, a resident of Swan Lake adjacent to the refuge.

Table I. 1996 Climatic Data, Swan River National Wildlife Refuge

MONTH	TEMPERATURE		PRECIPITATION (INCHES)		SNOWFALL
	HIGH	LOW	1996	12-YR AV.	1996
January	42°	-32°	4.75"	3.12"	41.0"
February	48°	-28°	5.00"	2.54"	3.5"
March	52°	0°	1.50"	2.06"	15.0"
April	70°	26°	4.85"	1.49"	.0
May	68°	30°	6.00"	2.41"	.0"
June	80°	38°	2.10"	1.98"	.0"
July	88°	40°	1.70"	1.57"	.0"
August	85°	42°	1.08"	1.62"	.0"
September	77°	30°	3.72"	1.59"	.0"
October	67°	18°	2.33"	1.76"	3.0"
November	44°	2°	5.00"	2.98"	40.0"
December	42°	- 6°	8.35"	3.48"	79.5"
			46.38"	26.60"	182.0"

C. LAND ACQUISITION

1. Fee Title

There was no land acquisition to the refuge in 1996.

Two acquisition proposals for small island tracts in Swan Lake were re-submitted in 1996 but were not acted upon by realty personnel. Both tracts involved donations by private third parties; one tract can best be described as a "small rock out-cropping along the refuges' lake shoreline"; the other island is about .4 acre in size and lies approximately one mile north of the refuge along the west side of Swan Lake. Both tracts are used by nesting Canada geese. The islands are used extensively by the public during the summer months. Fish & Wildlife Service administration of these tracts would offer increased protection of wildlife resources.

E. ADMINISTRATION

The Swan River NWR is a satellite unit of the National Bison Range (NBR), and is manned by the Refuge Manager located at the Creston Fish and Wildlife Center. Refuge activities such as budgeting, detailed administrative and operational functions are supervised by the Project Leader at NBR. Day-

to-day administrative functions are provided by the administrative staff located at the Creston Fish and Wildlife Center. Refer to the Wetland District Narrative for administrative and budgeting details.

1. Personnel

Budgetary constraints in FY 96 again precluded the hiring of the summer bio-tech position for both the refuge and wetland district. In mid-June Erik Skramstad was hired on a 30 day emergency appointment, which was extended for an additional 30 days. Erik assisted with posting and census on the refuge, as well as with various other wetland district responsibilities.

4. Volunteer Programs

During the summer months, Ellie Jones, a resident of Swan Lake and an Audubon member, continued her voluntary efforts in keeping the refuge information box supplied with refuge maps, FWS brochures and bird lists, (Sec. H.6.).

6. Safety

When safety meetings were held by the hatchery staff, refuge personnel attended.

F. HABITAT MANAGEMENT

2. Wetlands

Approximately 1,254 acres of the refuge are classified as a wetland/grassland complex. All of this acreage lies within an "alluvial floodplain" adjacent to the south end of Swan Lake. Vegetation is composed primarily of dense stands of reed canary grass.

With the exception of a culvert under Bog Road in Spring Creek and a staff gauge within the creek, which in the past, has been used for recording water flow levels, no other water control facilities or developments exist on the refuge.

Approximately 85 percent of the refuge flooded this year. Flood waters flow into the refuge from several principal tributaries: Swan River, Bond Creek, Yew Creek and Spring Creek. Flooding occurs on an annual basis in May, June and July when mountain snowpack begins to melt. Warmer temperatures in April, May and June resulted in a considerable runoff. Flows in the Swan River and other smaller tributaries remained high well into July. A warming trend in late July and throughout August resulted in the

reed canary grass meadows drying out by late August and early September.

3. Forests

Forested areas comprise approximately 313 acres of the refuge. Wooded tracts lie primarily on the west, south and southeastern portions of the refuge. Major tree species include old growth fir, spruce, cedar and larch. Large cottonwood trees are found along the shores of the Swan River. All forested units are maintained in their natural state.

7. Grazing

There was no grazing on the refuge this year due to wet soil conditions. The lack of interior cross fences and willing permittee(s) also limits our use of this management tool.

8. Haying

There was no haying on the refuge this year. For several years attempts have been made to locate hay permittees, however, there have been no "takers". Farming and ranching activities are limited in the Swan Valley. Ranchers who do hay in the valley or the Kalispell area are generally

reluctant to travel the distance to the refuge, therefore, it has been difficult to utilize this management tool. In prior years, when hay permittees were willing to hay, this management tool was used to "open up" the dense stands of reed canary grass, thus providing additional pair and brood habitat.

10. Pest Control

Canada thistle is the most persistent noxious weed found on the refuge. Infestations are generally limited to elevated upland sites within wetland areas and the nesting islands located in the northwest portion of the refuge. Chemical control is generally not feasible. Several days were spent pulling and chopping Canada thistle on the refuge.

G. WILDLIFE

2. Endangered Species

The Swan Mountain Range and Mission Mountain Range have been designated as a "habitat corridor" of the threatened grizzly bear. Montana Department of Fish, Wildlife & Parks will conclude a 10-year study in July of 1997 which will determine the status of the grizzly in the northern end of

this range. No formal studies were made on the refuge. Population simulations of data that has been collected by state biologists show a 55 percent probability that the population is increasing within the corridor. This has led to some discussion of de-listing the bear but no decision has been made. There were no sightings of grizzly bears on the refuge this year.

The nesting pair of bald eagles were sighted on the refuge in early April. Two eaglets were fledged in May. As in past years, the adult pair and young eaglets were often observed utilizing the refuge and the surrounding area on several occasions, presumably feeding on waterfowl, fish and rodents. In cooperation with State monitoring efforts, we again recorded our periodic observations of the eagles and submitted the annual state bald eagle nesting forms. Since 1987, 18 eaglets have been fledged at the Swan nest site. On several occasions throughout the year, "transient" eagles were also observed on the refuge. These birds are "migratory" in nature and spend varying lengths of time on, in, or near the refuge feeding, resting and loafing.

3. Waterfowl

Observed duck pairs increased 47 percent from 1995 figures. (Table II).

Table II. Pair Count Data 1991 - 1996

SPECIES	1991	1992	1993	1994	1995	1996
Mallard	81	110	71	108	78	114
Cinnamon/BW teal	26	24	21	36	21	25
Common goldeneye	25	28	24	25	22	22
Wood duck	10	5	5	9	4	11
Common merganser	0	3	0	6	7	6
Widgeon	2	2	1	5	0	5
Pintail	1	0	0	0	0	0
Ring-necked duck	1	5	5	8	0	0
Barrows goldeneye	0	0	0	0	2	0
Shoveler	2	0	4	0	0	3
Bufflehead	1	0	4	5	3	4
Green-winged teal	0	0	0	0	0	0
Gadwall	0	0	2	0	0	1
Lesser scaup	5	0	2	6	0	8
Hooded merganser	1	0	0	5	0	0
Ruddy duck	0	0	0	0	0	3
Total	155	177	139	213	137	202

1996 duck production figures were calculated using a hen productivity rate of .40 based on nest searches conducted on Lake County WPA's. Using this productivity rate, an average brood size of 5.1, and a brood survival rate of .7, estimated production for 1996 came to 288, a 48 percent increase from 1995 production estimates (Table III).

Table III. Estimated Duck Production, 1988-1996 Swan River National Wildlife Refuge

	1988	1989	1990	1991	1992	1993	1994	1995	1996
Ducks	91	147	39	175	256	198	304	195	288

The reason for the increase in production can be directly attributed to the increase in the number of observed pairs.

Waterfowl use and population estimates on the refuge were based on aerial census flights and random ground counts made in conjunction with on-going work activities. Peak population estimates are listed in Tables IV and V. Total waterfowl use days this year were estimated at 129,150, a 2.3 percent decrease from CY 95 estimates.

Table IV. Peak Waterfowl Populations, Spring Migrations Swan River National Wildlife Refuge

	1988	1989	1990	1991	1992	1993	1994	1995	1996
Swans	136	180	150	100	10	125	200	100	100
Canada geese	150	205	400	150	140	250	350	300	125
Ducks	535	2595	1650	5600	500	1465	2585	850	850

Table V. Peak Waterfowl Populations, Fall Migrations
Swan River National Wildlife Refuge

	1988	1989	1990	1991	1992	1993	1994	1995	1996
Swans	36	*55	150	250	25	50	150	75	55
Canada geese	275	150	350	200	200	200	200	100	200
Ducks	1086	550	2235	2550	340	1945	885	1965	785

*Observed in December

Canada goose production estimates are based on aerial pair counts done in April, followed by aerial brood counts in early June. Documenting actual nesting on the refuge is difficult due to high water levels and widespread inaccessibility of the refuge.

Canada goose production estimates are listed in Table VI. These figures may or may not represent actual production on the refuge. Broods hatched within the Swan River/Lake system often migrate to the refuge in search of food, loafing sites, or for safety. Figures listed in Table VI reflect observations made on the day of the aerial survey and do not necessarily reflect production that actually occurs on the refuge. These aerial counts, however, conducted since the mid-70's, are our most accurate, long-term index of goose production in the Swan Lake/River Refuge system.

In 1996, there was a decrease of nearly 17 percent in the number of observed pairs; estimated production decreased 30 percent. It is suspected that the reason for the decrease in production is attributed to the decrease in observed pairs.

Table VI. Swan River NWR, Canada Goose Breeding Pairs and Estimated Product

	1988	1989	1990	1991	1992	1993	1994	1995	1996
Breeding Pairs	25	34	42	23	38	29	26	30	25
Number of Young Observed	77	45	84	32	26	85	9	56	39

We continued our voluntary monitoring efforts with the Swan Lake Chapter of the Audubon Society in an attempt to locate loon nests on the refuge. Several loon calls were heard in mid-May. A single loon was observed at the mouth of the river in October. No loon nests or broods were observed on the refuge in 1996.

4. Marsh and Water Birds

Annual flooding of the refuge in the late spring and early summer months provides excellent marsh habitat for sora rails, pied-billed grebes, red-necked and horned grebes, American bitterns, great blue herons, and many other species of marsh and water birds. Populations peaked during the mid and late summer months. As cooler weather set in during late September this group of birds readily departed for warmer climates. Nesting probably occurred on the refuge but was not documented this year.

5. Shorebirds, Gulls, Terns & Allied Species

Species utilizing the refuge included California and ring-billed gulls, black tern, Wilson's phalarope, common snipe, American avocet, killdeer, and several species of sandpipers. Populations peaked in August.

6. Raptors

Coniferous and deciduous forest areas on the refuge continued to offer excellent resting and loafing sites for many raptor species. Northern harriers, Swainson's hawks, red-tailed hawks, and great-horned owls are commonly observed on nearly every visit to the refuge. Nesting has occurred in the past but was not documented this year.

7. Other Migratory Birds

As many as 64 species of non-game migratory birds have been observed utilizing the refuge during the spring, summer and early fall months. Red-winged blackbirds, common yellow-throats, song sparrows, tree swallows and common snipe are the most frequently observed species. State researchers, who are conducting non-game surveys on Forest Service tracts in northwest Montana, have reported that the refuge has the highest bird density of all surveyed areas in NW Montana.

8. Game Mammals

The refuge continued to provide excellent year-round habitat for many indigenous big game mammals. Deer and elk tracks are commonly seen in most upland areas on the refuge and on Bog Road. White-tailed deer were the most commonly observed game mammal. Resident populations are estimated at over 50. Fawning probably occurs but was not documented.

10. Other Resident Wildlife

Coyotes, beaver, muskrat and raccoons are known to inhabit the refuge. Observations were generally made near the river or on backwater sloughs within the refuge.

There was no observable increase in new beaver activity along the Swan River this year. In past years prolific beaver activity along the shoreline of Swan River has resulted in destruction of many old growth cottonwood trees. The reason for the continued decline in beaver activity is unknown, but may be attributed to a cyclic decline in the beaver population. Illegal trapping may also have had an impact on the population but this has not been documented.

11. Fisheries Resources

Game fish common to Swan River and the lake include yellow perch, bull trout, northern pike, kokanee salmon, largemouth bass, cutthroat, brook trout and mountain whitefish. Densely vegetated areas of Spring Creek, which empties into Swan Lake on the northeast corner of the refuge, provided excellent pike spawning habitat. During the May waterfowl pair counts, water levels were high and we observed many large "swirls" within the creek and interior borrow ditches, indicating continued use of the area by spawning females. The creek was closed to fishermen as part of the annual refuge closure from March 1 - July 15 (Section H.1.).

H. PUBLIC USE

1. General

Despite the refuge's generally secluded, out-of-the-way location, lack of established interpretive foot trails and annual flooding, non-consumptive public use of the refuge continues to increase. There is no accurate way of determining exact use and visits, however, based on random "car counts", discussions with the "locals" and demand for the refuge leaflets (Sec. H.6.), we may have had as many as 6,500 non-consumptive visits this year. The reason for the suspected increase in visits may be attributed to the wildlife viewing signs which were installed along Highway 83 a few years ago, as well as our new refuge information box. Whenever visits to the refuge were made for on-going work programs, we observed vehicles parked in the parking lot on a regular basis.

8. Hunting

Approximately 40 percent of the refuge is open to waterfowl hunting. The majority of the waterfowl hunt area is located north of Bog Road and along portions of Swan River.

Steel shot is required. Big game and upland game bird hunting is prohibited.

In 1996, the waterfowl season ran from September 28 to December 29 for ducks and from September 28 - January 5 for geese. As usual, several parties were out for the initial opener and had constructed temporary blinds along the lake's shoreline. Success was generally fair to good throughout the season and was dependent on weather conditions. Several freeze/thaw periods occurred in November which limited hunting visits as well as success. Late season hunting activity was limited to open stretches of the Swan River, however, success was very limited. Total waterfowl hunting visits this year were estimated at 220.

9. Fishing

The annual closure period limits fishing activity on the refuge. After July 15 an occasional angler looking for pike will venture into Spring Creek, however, success is limited due to heavy vegetation in the creek. Those portions of Swan River which flow through the refuge are open the entire year. Fishing activity is reduced in the river because of high water levels during the spring and early summer months and low flows in late summer and early fall.

The most popular fishing spot on Swan Lake continued to be at the mouth of Spring Creek just outside the refuge boundary. Northern pike often lie in the reed beds before going upstream to spawn in the dense aquatic vegetation inside the refuge boundary. Fishermen often take advantage of the situation by anchoring just outside the refuge boundary.

17. Law Enforcement

Patrol efforts are generally made during the waterfowl season. No citations were issued this year. During the winter months several calls were received from local residents concerning snowmobile trespass on the refuge. Even though we responded to these calls, no citations were issued because the "alleged" trespassers were gone by the time we arrived at the refuge. In addition, "alleged" illegal beaver trapping along the river was investigated but could not be confirmed.

I. EQUIPMENT AND CONSTRUCTION

4. Equipment Utilization and Replacement

All equipment utilized on the refuge is also used in daily operations and work activities on Flathead County WPA's. See the Wetland District Narrative for further information.

J. OTHER ITEMS

4. Credits

Ray Washtak wrote this report. It was edited by Dave Wiseman and typed by Sharon Hooley and Kaye Dobrocke.